CLAIMS:

1. A method of treating portions of an array of substantially upright silicon-comprising structures, comprising:

providing a substrate having a plurality of substantially upright silicon-comprising structures extending thereover, the substantially upright silicon-comprising structures having base portions and end portions above the base portions;

forming a masking layer over the substrate, the masking layer covering the base portions of the substantially upright silicon-comprising structures and leaving the end portions exposed; and

while the masking layer covers the base portions, subjecting the exposed end portions to conditions which alter the end portions relative to the base portions.

2. The method of claim 1 wherein the forming comprises:

depositing the masking layer over the substrate to have a greater thickness over the base portions than over the end portions; and

removing the deposited masking layer from over the end portions to expose the end portions.

3. The method of claim 1 wherein the masking layer comprises spin-on-glass.

4. The method of claim 1 wherein the masking layer comprises silicon dioxide.

5. The method of claim 1 wherein the subjecting comprises subjecting the end portions to conditions which render the end portions more porous than the base portions.

6. The method of claim 5 wherein subjecting comprises electrochemical etching in the presence of HF.

7. The method of claim 5 wherein the silicon of the upright structure is doped with an n-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF and light.

8. The method of claim 5 wherein the silicon of the upright structure is doped with an p-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF.

9. The method of claim 1 wherein the subjecting comprises subjecting the end portions to conditions which cover the end portions with a coating material.

10. The method of claim 9 wherein the coating material comprises a lower work function than silicon.

11. The method of claim 9 wherein the coating material comprises diamond.

12. The method of claim 9 wherein the coating material comprises boron nitride.

13. The method of claim 9 wherein the coating material comprises sulfur-doped boron nitride.

14. The method of claim 9 wherein the coating material comprises cesium.

15. The method of claim 9 wherein the coating material comprises cesiated carbon.

16. A method of treating the ends of an array of silicon-comprising emitter structures, comprising:

providing a substrate having a plurality of silicon-comprising emitter structures thereover, the emitter structures having base portions and ends above the base portions;

forming a layer over the substrate, the layer covering the base portions of the emitter structures and leaving the ends exposed; and

while the layer covers the base portions, subjecting the ends to conditions which alter the ends relative to the base portions.

17. The method of claim 16 wherein the subjecting comprises subjecting the ends to conditions which render the ends more porous than the base portions.

18. The method of claim 17 wherein subjecting comprises electrochemical etching in the presence of HF.

19. The method of claim 17 wherein the silicon of the upright structure is doped with an n-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF and light.

20. The method of claim 17 wherein the silicon of the upright structure is doped with an p-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF.

21. The method of claim 16 wherein the subjecting comprises subjecting the ends to conditions which cover the ends with a coating material.

22. The method of claim 21 wherein the coating material comprises a lower work function than silicon.

23. The method of claim 21 wherein the coating material comprises diamond.

24. The method of claim 21 wherein the coating material comprises boron nitride.

25. The method of claim 21 wherein the coating material comprises sulfur-doped boron nitride.

26. The method of claim 21 wherein the coating material comprises cesium.

27. The method of claim 21 wherein the coating material comprises cesiated carbon.

28. A method of treating the ends of an array of silicon-comprising emitter structures, comprising:

providing a substrate having a plurality of silicon-comprising emitter structures thereover, the emitter structures having base portions and pointed apexes above the base portions;

forming a layer of spin-on-glass over the substrate, the layer of spin-on-glass covering the base portions of the emitter structures and leaving the apexes exposed; and

while the layer of spin-on-glass covers the base portions, subjecting the apexes to conditions which alter the apexes relative to the base portions.

29. The method of claim 28 wherein the subjecting comprises subjecting the apexes to conditions which render the apexes more porous than the base portions.

30. The method of claim 29 wherein subjecting comprises electrochemical etching in the presence of HF.

31. The method of claim 29 wherein the silicon of the upright structure is doped with an n-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF and light.

32. The method of claim 29 wherein the silicon of the upright structure is doped with an p-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF.

33. The method of claim 28 wherein the subjecting comprises subjecting the apexes to conditions which cover the apexes with a coating material.

34. The method of claim 33 wherein the coating material comprises a lower work function than silicon.

35. The method of claim 33 wherein the coating material comprises diamond.

36. The method of claim 33 wherein the coating material comprises boron nitride.

37. The method of claim 33 wherein the coating material comprises sulfur-doped boron nitride.

38. The method of claim 33 wherein the coating material comprises a cesiated carbon film.

39. A method of forming a field emission display device, comprising:

forming a cathode array over a base plate, the cathode array comprising emitter structures having base portions and ends above the base portions;

forming a layer of spin-on-glass over the cathode array, the layer of spin-on-glass covering the base portions of the emitter structures and leaving the ends exposed;

while the layer of spin-on-glass covers the base portions, subjecting the ends to conditions which alter the ends relative to the base portions; and

joining the base plate to a face plate in a configuration wherein the face plate is spaced from the base plate.

40. The method of claim 39 further comprising removing the spin-on-glass from over the base portions prior to joining the base plate to the face plate.

41. The method of claim 39 wherein the spin-on-glass is not removed from over the base portions prior to joining the base plate to the face plate.

42. The method of claim 39 wherein the ends terminate in sharp apexes before the subjecting.

43. The method of claim 39 wherein the subjecting comprises subjecting the ends to conditions which render the ends more porous than the base portions.

44. The method of claim 43 wherein subjecting comprises electrochemical etching in the presence of HF.

45. The method of claim 43 wherein the silicon of the upright structure is doped with an n-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF and light.

46. The method of claim 43 wherein the silicon of the upright structure is doped with an p-type material, and wherein the subjecting comprises electrochemical etching in the presence of HF.

47. The method of claim 39 wherein the subjecting comprises subjecting the ends to conditions which cover the ends with a coating material.

48. The method of claim 47 wherein the coating material comprises a lower work function than silicon.

49. The method of claim 47 wherein the coating material comprises diamond.

50. The method of claim 47 wherein the coating material comprises boron nitride.

51. The method of claim 47 wherein the coating material comprises sulfur-doped boron nitride.

52. The method of claim 47 wherein the coating material comprises cesium.

53. A cathode assembly comprising a plurality of silicon-comprising emitter structures projecting over a substrate, the emitter structures having base portions and ends above the base portions, the ends comprising a different material than the base portions.

54. The assembly of claim 53 wherein the emitter structures comprise conductively doped polysilicon.

55. The assembly of claim 53 wherein the ends terminate in pointed apexes.

56. The assembly of claim 53 wherein the emitter structures consist essentially of conductively doped silicon.

57. The assembly of claim 53 wherein the emitter structures consist essentially of conductively doped polysilicon.

58. The assembly of claim 53 wherein the ends comprise porous silicon and the base portions comprise non-porous silicon.

59. The assembly of claim 53 wherein the ends are coated with a material having a lower work function than silicon and the base portions are not coated with such material.

60. The assembly of claim 59 wherein the material comprises diamond.

61. The assembly of claim 59 wherein the material comprises boron nitride.

62. The assembly of claim 59 wherein the material comprises cesium.